

CLAIMS

What is claimed is:

1. A multimedia receiver system which provides drift compensation for transponder signals or cable/broadcast signals ("multimedia signals") comprising:
 - system-level drift calculation logic to calculate an average drift amount for each multimedia signal in a first group of multimedia signals; and
 - system-level drift correction logic to correct drift of each of said multimedia signals based on said average drift amount.
2. The system as in claim 1 further comprising:
 - signal-level drift calculation logic to calculate a difference in drift between each individual multimedia signal and said average drift amount; and
 - signal-level drift correction logic to correct drift for each individual multimedia signal based on said difference.
3. The system as in claim 1 wherein said system-level drift calculation logic comprises:
 - a carrier detection module to measure a carrier frequency of each of said first group of multimedia signals; and
 - an averager module to calculate said average drift amount between each of said measured carrier frequencies and one or more desired carrier frequencies associated with said multimedia signals.
4. The system as in claim 1 further comprising:
 - additional system-level drift calculation logic to calculate an average drift amount for a second group of multimedia signals; and

system-level drift correction logic to correct drift of each of said multimedia signals in said second group by said average drift amount.

5. The system as in claim 4 wherein said first group of multimedia signals are from a first low noise block downconverter ("LNB") and said second group of multimedia signals are from a second LNB.

6. The system as in claim 1 wherein said system-level drift calculation logic comprises:

difference logic to calculate the difference between a desired frequency value and an actual frequency value for each individual multimedia stream; and
an averager to calculate the average difference between said desired frequency values and said actual frequency values.

7. The system as in claim 1 wherein said system-level drift correction logic comprises:

a phase locked loop ("PLL") to perform a system-level frequency adjustment based on said average drift amount, said system-level adjustment affecting each of said multimedia signals in said first group.

8. The system as in claim 6 wherein said system-level drift correction logic comprises:

a phase locked loop ("PLL") to perform a system-level frequency adjustment based on said average drift amount, said system-level adjustment affecting each of said multimedia signals in said first group.

9. The system as in claim 7 wherein said PLL is comprised of a divide-by-N module for precisely adjusting said system-level frequency responsive to said calculated average drift amount.

10. The system as in claim 9 wherein said PLL further comprises:
a sigma-delta A/D module for removing jitter from an output of said divide-by-N module.

11. The system as in claim 2 wherein said signal-level drift correction logic is comprised of a numerically controlled oscillator ("NCO") to correct drift for each individual multimedia signal based on said difference.

12. An apparatus comprising:
a carrier analysis module to measure a signal characteristic of each of a plurality of satellite transponder signals or cable/broadcast signals ("carrier signals");
an averager module to calculate an average difference between each of said measured signal characteristics and one or more desired signal characteristics; and
signal correction logic to adjust said signal characteristic for all of said carrier signals responsive to said calculated average difference.

13. The apparatus as in claim 12 wherein said signal characteristic is a measured frequency of each of said carrier signals and said desired signal characteristic is a specified frequency for each of said carrier signals.

14. The apparatus as in claim 13 wherein said signal correction logic comprises a phase locked loop ("PLL") to adjust each of said carrier signals responsive to said average difference.

15. The apparatus as in claim 12 further comprising:
individual carrier signal correction logic for correcting said signal characteristic for an individual signal carrier based on a difference between said signal characteristic for said signal carrier and said average difference.

16. The apparatus as in claim 15 further comprising:
individual carrier signal detection logic to measure said difference between said signal characteristic of each of said signal carriers and said average difference.

17. The apparatus as in claim 12 wherein said signal carriers are satellite transponder signals and wherein all of said signal carriers adjusted by said signal correction logic are from the same low noise block downconverter ("LNB").

18. The apparatus as in claim 17 wherein said carrier analysis module measures a signal characteristic of each of an additional plurality of carrier signals, said additional carrier signals being from a different LNB;

wherein said averager module calculates an average difference between each of said measured signal characteristics for each of said additional carrier signals and one or more desired signal characteristics; and

wherein said signal correction logic adjusts said signal characteristic for all of said additional carrier signals responsive to said calculated average difference.

19. The apparatus as in claim 14 wherein said PLL includes divide-by-N module for precisely adjusting said measured frequency of each of said carrier signals responsive to said calculated average difference transmitted from said averager unit.

20. The apparatus as in claim 19 further comprising:
a sigma-delta A/D module for removing jitter from an output of said divide-by-N module.

21. A computer-implemented method for correcting drift for a plurality of multimedia signals comprising:

calculating an average drift amount for each multimedia signal in a first group of multimedia signals; and

correcting drift of each of said multimedia signals based on said average drift amount.

22. The method as in claim 21 further comprising:

calculating a difference in drift between each individual multimedia signal and said average drift amount; and

correcting drift for each individual multimedia signal based on said difference.

23. The method as in claim 21 wherein calculating further comprises:

measuring a carrier frequency of each of said first group of multimedia signals; and

calculating said average drift amount between each of said measured carrier frequencies and one or more desired carrier frequencies associated with said multimedia signals.

24. The method 21 further comprising:

calculating an average drift amount for a second group of multimedia signals; and

correcting drift of each of said multimedia signals in said second group by said average drift amount.

25. The method as in claim 24 wherein said first group of multimedia signals are from a first low noise block downconverter ("LNB") and said second group of multimedia signals are from a second LNB.

26. The method as in claim 21 wherein correcting further comprises:

calculating the difference between a desired frequency value and an actual frequency value for each individual multimedia stream; and

calculating the average difference between said desired frequency values and said actual frequency values.

27. The system as in claim 21 wherein said correction is accomplished via a phase locked loop ("PLL") to perform a system-level frequency adjustment based on said average drift amount, said system-level adjustment affecting each of said multimedia signals in said first group.

28. The method as in claim 27 wherein said PLL is comprised of a divide-by-N module for precisely adjusting said system-level frequency responsive to said calculated average drift amount.

29. The method as in claim 28 wherein said PLL further comprises:
a sigma-delta A/D module for removing jitter from an output of said divide-by-N module.

30. A machine-readable medium having code stored thereon which defines an integrated circuit (IC), said IC comprising:
system-level drift calculation logic to calculate an average drift amount for each multimedia signal in a first group of multimedia signals; and
system-level drift correction logic to correct drift of each of said multimedia signals based on said average drift amount.

31. The machine-readable medium as in claim 30 wherein said IC further comprises:
signal-level drift calculation logic to calculate a difference in drift between each individual multimedia signal and said average drift amount; and
signal-level drift correction logic to correct drift for each individual multimedia signal based on said difference.

32. The machine-readable medium as in claim 30 wherein said IC further comprises:
a carrier detection module to measure a carrier frequency of each of said first group of multimedia signals; and

an averager module to calculate said average drift amount between each of said measured carrier frequencies and one or more desired carrier frequencies associated with said multimedia signals.

33. The machine-readable medium as in claim 30 wherein said IC further comprises:

additional system-level drift calculation logic to calculate an average drift amount for a second group of multimedia signals; and

system-level drift correction logic to correct drift of each of said multimedia signals in said second group by said average drift amount.

34. The machine-readable medium as in claim 33 wherein said first group of multimedia signals are from a first low noise block downconverter ("LNB") and said second group of multimedia signals are from a second LNB.

35. The machine-readable medium as in claim 30 wherein said system-level drift calculation logic further comprises:

difference logic to calculate the difference between a desired frequency value and an actual frequency value for each individual multimedia stream; and

an averager to calculate the average difference between said desired frequency values and said actual frequency values.

36. The machine-readable medium as in claim 30 wherein said system-level drift correction logic further comprises:

a phase locked loop ("PLL") to perform a system-level frequency adjustment based on said average drift amount, said system-level adjustment affecting each of said multimedia signals in said first group.

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37. The machine-readable medium as in claim 35 wherein said system-level drift correction logic further comprises:

a phase locked loop ("PLL") to perform a system-level frequency adjustment based on said average drift amount, said system-level adjustment affecting each of said multimedia signals in said first group.

38. The machine-readable medium as in claim 36 wherein said PLL is comprised of a divide-by-N module for precisely adjusting said system-level frequency responsive to said calculated average drift amount.

39. The machine-readable medium as in claim 38 wherein said PLL further comprises:

a sigma-delta A/D module for removing jitter from an output of said divide-by-N module.

40. The machine-readable medium as in claim 31 wherein said signal-level drift correction logic is comprised of a numerically controlled oscillator ("NCO") to correct drift for each individual multimedia signal based on said difference.